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ABSTRACT

The implementation of the Education for All Handicapped Children Act (PL 94-142) has placed an enormous financial burden on local districts. In order to create special education programs that combine cost effectiveness and high quality, a regional model has been developed. The Therapeutic Residential Experience for Emotional Stability (TREES) in Augusta County, Virginia, operates on a per pupil funding mode. Analysis of TREES's operating budget reveals that this mode works well only when enrollment is maximum (25). An alternative method is percent share funding in which each district contributes its share of daily expenses based on the number of pupils in membership. This method is preferable in that it allows for variances in pupil enrollment. Regional programs can be organized in three ways: the Multi-System Model (MSM), the Single-System Model (SSM), and the Private School Model (PSM). The MSM is judged most practical and cost efficient because it can take advantage of "the economies of scale" and gives authority to a committee for control, thereby avoiding the administrative dueling inevitable in a Single-System Model. (Author/WD)

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MANAGEMENT MODELS AND COST ANALYSIS FOR REGIONAL SPECIAL EDUCATION PROGRAMS

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WHY REGIONAL PROGRAMS?

With the implementation of the Education for All Handicapped Children Act (PL94-142), local school divisions have been faced with the massive role of providing an "appropriate" education for all pupils regardless of cost. While the equity and fairness of this law are above reproach, the relatively low degree of federal or state support in implementing PL94-142 has placed an enormous financial burden on local school divisions.

Large metropolitan or suburban school systems have been able to absorb much of the cost of these required services due to sheer size of their pupil enrollments. By providing a centralized delivery program for the entire system (as opposed to school based delivery systems), larger school divisions have been able to maintain a reasonable level of expenditures on specific types of special education services. Not only have the costs been kept lower, but the qualitative aspects of these programs are consistently high as a direct result of the cost efficiency.

This cost efficiency stems from what is known as "the economies of scale". The original economies of scale theory was developed by Dr. Roe L. Johns of the University of Florida for regular education programs. The thrust of his theory was that larger, more densely populated school divisions were able to provide a marketly superior educational program due to the higher levels of pupil enrollments. Large school divisions were able to provide more diverse educational programs because more pupils would fill these programs to maximum levels thereby producing cost efficiency. A large school division could offer a class in calculas (for example) and find 20 to 25 pupils who would enroll in this difficult class. Normal funding for these 20 to 25 pupils would more than offset the costs of this class.

However, the smaller (and usually) rural school divisions found themselves

in just the opposite position. Due to their relatively low and sparse pupil enrollments, the smaller school divisions could only find four or five pupils to take calculas. Therefore, the class became extremely inefficient in terms of costs and was not usually offered.

Almost identical circumstances exist between the above example and special education. Large school divisions are able to provide all of the specialized services in a highly cost efficient manner due to the sheer number of pupils identified as "handicapped". Small school divisions find themselves identifying a relatively low number of pupils as handicapped and, consequently, delivery of these specialized services became outrageously high in an inner-school system operation. This additional special education element is an added burden to rural school divisions who are already fighting the "(un) economies of scale" in their regular programs.

Regardless of such uneconomies, local school divisions are under state and federal mandate to identify, evaluate, and provide Special Education services to children who need them at no cost to the parents or guardian. This mandate has led wise school business managers to examine alternatives in an attempt to reduce the cost of such delivery programs. These individuals immediately have realized the inherent advantages enjoyed by the larger school divisions. Economies of scale will significantly reduce the cost of providing special education services. In an attempt to utilize these inherent cost efficient advantages, the "regional special education program" has been developed. Special education students who require specialized service are gathered from several school divisions into some type of centralized delivery program that provides "economies of scale" and high cost efficiency. Not only have the cost of such services been significantly reduced, but the quality of the programs have tended to increase dramatically. A centralized delivery program could more easily support the additional cost of a highly quantitative program than the smaller special education program operated

by a single school division.

Therefore, the advantages of regional special education programs are first, the high cost efficiency which such a program produces; and second, the high quality inherent in such regional programs. There are, however, some disadvantages as well. The concept of community or local education is inconsistant with regional programs. Many children will not be able to go to the nearest school to receive their "appropriate" education. Also, local school divisions lose a certain amount of authority over these programs. Since these programs are regional in nature, the control of these programs is diluted among its various participants. The more school divisions involved in a regional program, the less control any single school division has over the program.

Because of these advantages and disadvantages, regional special education programs have taken a variety of forms in terms of policy, structure, and funding. It is the attempt of the balance of this report to examine the pro's and con's of various administrative forms which regional special education programs can utilize. Also, a variety of funding alternatives will be provided in order to allow maximum flexability in choosing an appropriate form to meet individual area needs.

FUNDING

When an examination of the feasibility of regional Special Education Programs is conducted, the issue of funding frequently becomes a critical criteria. The mode of funding must be consistant and congruent with the administration style of the regional program. However, even with diverse administration styles, most funding modes can be broken down into three basic formats: per pupil funding, percent share funding, and combination funding.

Obviously, the internal budget of a regional program is unique in almost every circumstance, however, the TREES (Therapeutic Residential Experience for Emotional Stability) program of Augusta County, Virginia is quite typical. TREES, being in the third and last year of federal funding under Title VI-B, is examining various funding and administration models suitable to their needs. An abbreviated examination of the TREES 1979-80 budget is shown on the next page in Table 1. Of the total budget, the three largest budget items are shown in Table 2.

TABLE 2

MAJOR BUDGET ITEMS

Item	Percent	Total Amount
Instruction	61.6%	$134,359
Fixed Charges	17.6%	38,410
Food Services	10.8%	23,480

The "Instructional" Category consist primarily of personnel costs. The personnel of TREES operate within an enrollment range of 20 to 25 pupils. When the upper limits of this range are violated without an appropriate increase in personnel, the cost effectiveness (quality) of the program diminishes. TREES is currently utilizing a per pupil funding mode which presents some financial

TABLE 1

ABBREVIATED TREES BUDGET (1979-80)

Expenditure Category	Funds State/Local	Funds Federal
(200) Instruction	$54,556	$79,803
(200) Travel	800	0
(200) Materials, Supplies and Activities	4,100	0
(400) Health Services	2,500	0
(500) Transportation	1,583	0
(600) Plant	12,150	0
(700) Maintenance	130	0
(800) Fixed Charges	3,231	35,179
(900) Food Services	23,480	0
(1200C) Equipment for Instruction	500	0
	$103,030	$114,982
GRAND TOTAL		$218,012

problems. Since the maximum effective pupil enrollment is 25, the cost per maximum pupil enrollment is $8,720. Instructional costs account for 61.6% of this amount or $5,372 per maximum pupil enrollment. If TREES is not operating at maximum capacity (25 students), then each pupil is not contributing an equiptable and proportional share of the instructional cost. For example, 22 pupils will contribute $118,184 towards these expenses when, in fact, the actual cost of instruction is $134,359 creating a loss of $16,175. Since TREES operates within a range of pupil enrollment, personnel cannot be arbitrarily reduced to make up for the $16,175 loss. Indeed, when TREES is operating at less than maximum pupil enrollment, someone has to absorb the loss of revenue. Under TREES current operating structure, the sponsoring school divisions (Augusta County), not the other participating school divisions absorb the lack of revenue. It would be impractical to expect TREES to operate at maximum pupil enrollment 100% of the time, so some method is needed to more equiptably distribute the support of TREES.

The "fixed charges" category of TREES accounts for 17.6 percent of the total operating budget. As long as TREES can contract the use of Camp Holiday Trails in advance and maintains a predetermined number of personnel, the total cost of this category can be easily and accurately determined in advance. However, once again these charges are only equitably divided when TREES is operating at maximum pupil enrollment. Like the instructional category, these costs remain identical regardless of pupil enrollment at TREES.

Ordinarily, the third largest category, food services, would reflect differences in pupil enrollment. However, TREES administrators have wisely contracted such services out in addition to maintaining a full-time cafeteria worker. This makes food service, like instruction and fixed charges, a flat rate whose costs are independent of pupil enrollment.

In fact, over 99 percent of the TREES budget is independent of student

enrollment. If the TREES budget is based on its maximum pupil enrollment, then some school district must absorb the net operating loss created if enrollments drop below maximum enrollment. On the other hand, if the budget is based on the minimum pupil enrollment, then there will be a budget surplus if TREES operates at more than minimum.

The inequities of per pupil funding have already been examined in the previous section. However, TREES is currently operating under this system. Per pupil funding has two major drawbacks. First, if TREES is not operating at maximum pupil enrollment, then revenue inequities are created among those school districts utilizing its resources. Second, the per pupil funding structure is currently preventing TREES from expanding its delivery services to more than its maximum pupil enrollment.

With TREES operating budget of $218,012 and its maximum enrollment of 25 pupils, the per pupil cost is $8,720. Of enrollment drops below 25, cost deficiencies are created as shown in Table 3.

TABLE 3

Per Pupil Expenditures
(Based on 25)

No. of Pupils	Actual Cost[1]	Per Pupil Revenue	Net Loss
25	$218,012	$218,012	0
24	$217,308	$209,280	- 8,028
23	$216,604	$200,560	-16,044
22	$215,900	$191,840	-24,060
21	$215,916	$183,120	-32,746
20	$214,492	$174,400	-40,092
19	$213,788	$165,680	-48,108

However, when the operating budget of $218,012 is based on the minimum

[1]Actual costs based on (1) constant costs = $200,412 or 99.2% and (2) variable costs = $17,600 of maximum pupil enrollment budget or .8%.

pupil enrollment of 20, the per pupil cost rise to $10,901. If the actual enrollment at TREES increases, costs surpluses are created as shown in Table 4.

TABLE 4

PER PUPIL EXPENDITURES
(Based on 20)

No. of Pupils	Actual Costs[2]	Per Pupil Revenue	Net Gain
25	$221,532	$272,525	+50,993
24	$220,828	$260,624	+39,796
23	$220,124	$250,723	+30,599
22	$219,420	$239,822	+20,402
21	$218,716	$228,921	+10,205
20	$218,012	$218,012	0

It would be difficult to justify the surpluses indicated in Table 4, particularly the 23 percent surplus gained from the maximum student enrollment.

The most serious deficiency of the per pupil funding method is its inability to adjust for varying enrollment. This is particularly harmful to TREES where over 99 percent of the budget is independent of student enrollment.

Unlike the per pupil funding model, the percent share funding method is more complicated to administer but more equitable in terms of funding. Each school division who has pupils attending TREES will contribute their percentage of each days' expense when their pupils are in membership (not attendance).

Since the operating budget for TREES is $218,012 per year of 180 school days, the cost is $1,211.18 per day. This cost can be "shared" by school divisions depending on the total number of pupils in membership (see Table 5).

[2]Actual costs based on (1) constant costs = $200,412 or 99.2% and (2) variable costs = $17,600 of maximum pupil enrollment budget or .8%.

TABLE 5

COST OF DAILY SHARES

No. of Pupils	Cost Per Pupil Per Day
25	$48.45
24	50.47
23	52.66
22	55.05
21	57.66
20	60.56

So if a school system has three pupils enrolled in TREES for 50 days when there are 24 pupils, 50 days when there are 21 pupils and 80 days when there are 25 pupils, they would contribute the following:

3 (pupils) x 50 (days) x 50.47 (1/24 share) = $7,570.50
3 (pupils) x 50 (days) x 57.66 (1/21 share) = $8,649.00
3 (pupils) x 80 (days) x 48.45 (1/25 share) =$11,628.00
Total Cost =$27,847.50

In this way, each school division is paying for its appropriate "share" of the total cost and, this share is adjusted daily for variances in pupil membership. The advantages of this method of funding are obvious. Each school division pays for only those services which are utilized, and no school division is expected to "absorb" an inequitable loss due to ADM variances. If services are needed for 30 pupils, TREES simply has to calculate the extra expenses incurred by these additional pupils and then refigure the costs of the daily shares based on 30 rather than 25 pupils. Of course, accurate membership (enrollment) data must be kept at all times and there is some additional clerical work involved in the calculations. Billing to local school divisions who utilize the regional program can be done on some predetermined basis such as monthly, quarterly, or semi-annually.

Some regional programs have tried some combination of per pupil funding and percent share funding. Generally, those costs which vary along with pupil enrollment are calculated on a per pupil funding basis; and those costs which are constant are calculated on a percent share funding basis. This method is effective and efficient when the budget is proportioned where per pupil costs account for between 25 and 50 percent of the total operating budget. Since per pupil costs in the TREES budget account for less than one percent, this alternative is not recommended. This method also suffers from the additional burden of double calculations, thereby requiring additional clerical time.

ORGANIZATION AND STRUCTURE

As stated previously, the appropriateness of the funding method depends, to a certain extent, on the organization and structure of the regional program. The organizational structure of such programs also affect variables such as political feasibility, who makes policy, management power, management effectiveness, and (ultimately) the quality of the instructional program.

Unfortunately, two of the above mentioned variables are incompatable in the pragmatic setting. When regional programs are organized for political expedency, the making of policy is usually removed from the management process and, consequently, the quality and effectiveness of the instructional program is reduced. On the other hand, in order to maintain a high level of quality and effectiveness in the program, the management needs the ability to make policy. This situation makes it difficult to solve simple political problems.

Generally, regional programs can be organized in three ways: the Multi-System Model, the Single-System Model, and the Private School Model. The advantages and disadvantages of each model will be examined in detail.

The concept behind the multi-system model (MSM) is most democratic and cost efficient. None of the participating school divisions can, alone, provide

the special education services required in a cost efficient manner. The only logical alternative is to join with other school divisions in offering these specialized services. Generally, the organizational structure of such models is illustrated in Table 6.

Committee for Control

The controlling body in this model is the "Committee for Control" (CFC). This committee is comprised of members from participating school divisions' school boards. The composition of this committee can be done in several ways. Each participating school division can have one school board member serving on the committee for control. This method is the simplest but not necessarily the most equitable. Perhaps each school division can have one member on the committee and those school divisions which have more than eight pupils enrolled at TREES may have an additional member. This committee acts much like a mini-school board. It has the power to adopt budgets, make policy, transfer funds from one category to another, etc. Any participating school division must sign an agreement giving complete control of the regional program to the committee for control.

Director

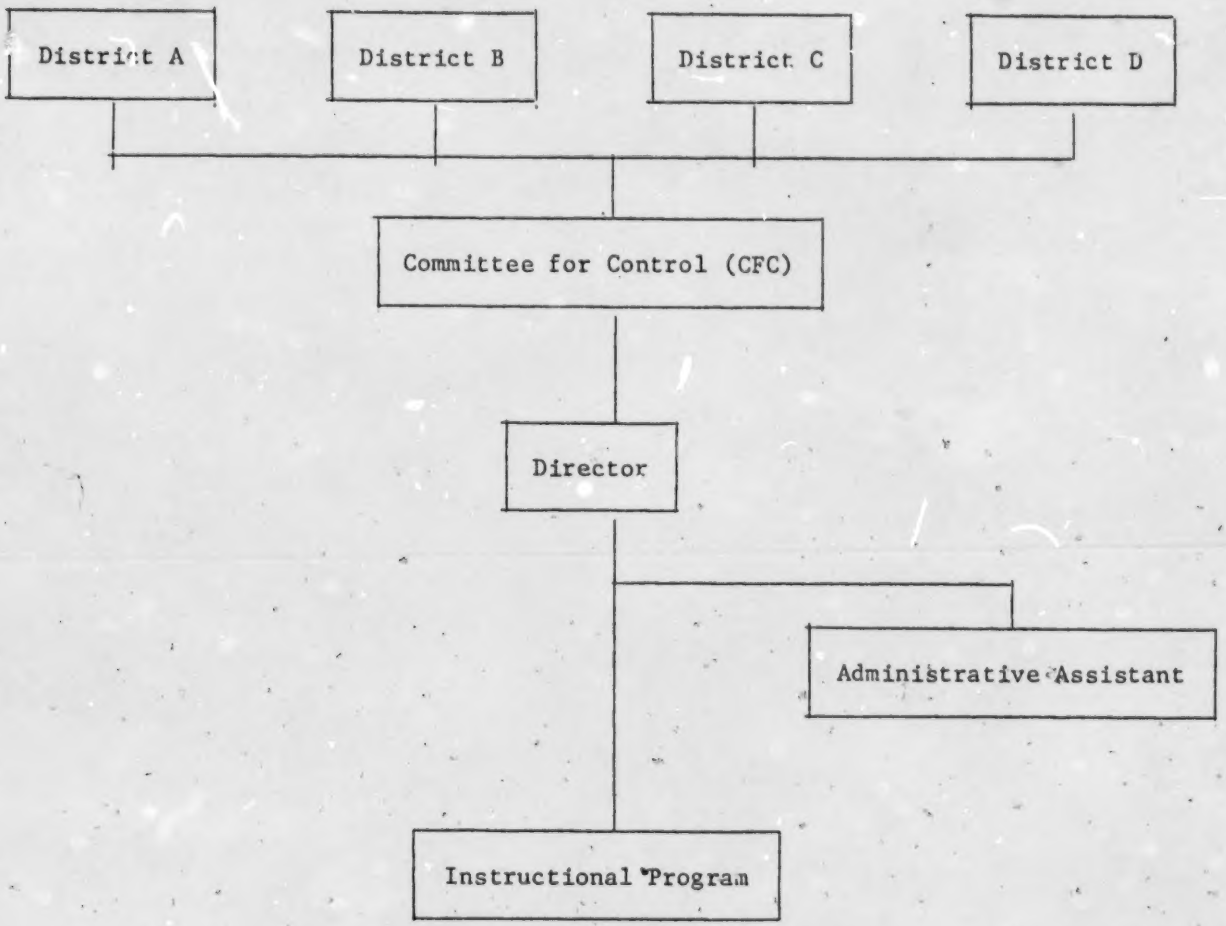
The director of the regional program will act much like a superintendent. This individual will be responsible for the overall operation of the program including instruction, curriculum, finances, facilities, etc. Any policies which the CFC creates would be implemented by the director.

Administrative Assistant

An administrative assistant would be needed in a staff position to aid the director in some of the more mundane duties of administration. This individual should work with finances, etc. so that the director will be free to work with the instructional program as much as possible.

TABLE 6

MULTI-SYSTEM MODEL (MSM)



Instructional Program

The instructional program would operate immediately under the supervision of the director and would constitute the bulk of the personnel and expenses. Since this is the level where the actual service takes place, this element is the heart of the program.

Advantages and Disadvantages

The advantages of such a model are many. The committee for control, in exercising complete control and authority over the regional program, provides the director with a single body to be responsible to. Absent this committee, the director would expend too much time and effort joining comprimises among the various school boards. Under this model, the director functions more as an instructional leader than a political lobbyist. This model also provides for efficient implementation of policy developed by the CFC. The management, in running this model, is kept small, thereby, placing the financial and personnel emphasis on the instructional program rather than on the administration. Also, if budgetary revisions are needed, the director need only meet with the CFC for changes rather than meet with each participating school board. No single school division controls the regional program either. The power to control the program is divested among several school divisions instead of just one.

The disadvantages of this model are more political than instructional or administrative. Obtaining a written agreement from each participating school board relinquishing control to the CFC may prove difficult. The determining of the constitution of the CFC could be a major stumbling block. Members on the CFC would be serving two times - once as a school board member for the local school division and once as a member of the committee for control.

The single system model (SSM) operates as a regional program but is run and controlled by a single school division. Other school divisions simply send their pupils to the regional program and relinquish much of the control over

these pupils. There are two major organizational variations of this model.

Single System Model - A

The single system model - A (SSM-A) has a single school board in complete control of the regional program (illustrated in Table 7). In this model, the regional program is just an extension of the regular instruction program provided by the school division. No special attempt is made to tailor policy for the special needs of the regional program. The division superintendent (and possibly assistant superintendent for instruction) are line administrators over the program. It is important to note that it is basic tenant of good administration that an individual have one and only one superior. The role of the director of special education can become critical in this model. It is unlikely that the director of special education has the time to become the director of regional programs. Therefore, the director of regional programs should answer to either the superintendent (or assistant superintendent for instruction) or the director of special education, but not both. In SSM-A, the regional program director answers to the superintendent. The director of special education is in a staff position providing guidance but not direct supervision.

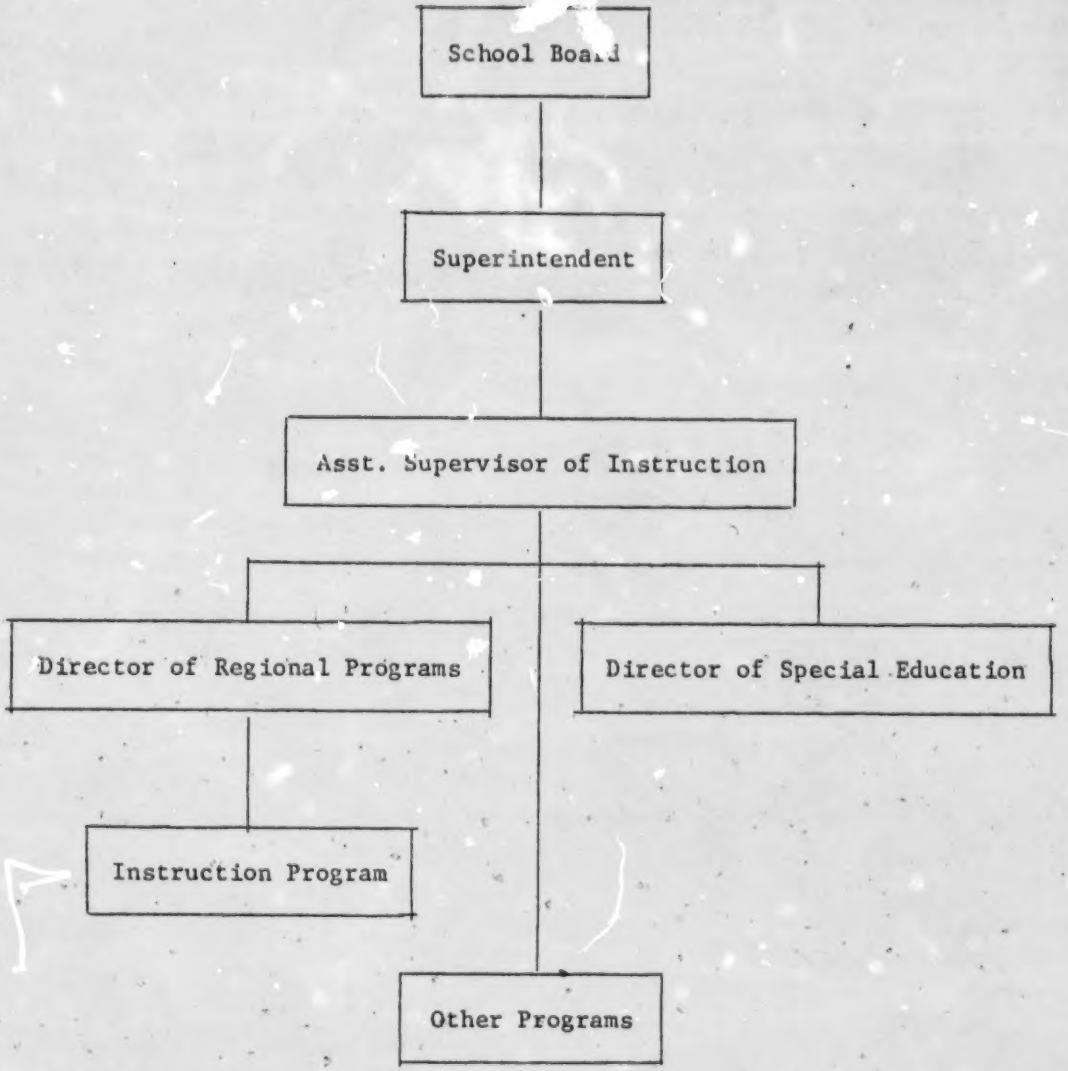
Students from other school divisions are absorbed into the program. Policies of the controling school board regulate the administration of students even if contrary to other school boards policy. Usually other school boards are asked to sign an agreement accepting this situation.

The advantages of this model (SSM-A) are numerous. The bulk of the administration can be accomplished through the normal administration system of the controling school system. There is no need for a "committee for control" or an administrative assistant. The controling school division does not have to compromise its policies and there is no need for the power politics found in the multi-system model.

The disadvantages of this model, however few, are serious. The controling

TABLE 7

SINGLE SYSTEM MODEL - A



school division has complete and absolute control over the regional program. No special policies are made for the individual needs of the program. Any administrative deficiencies of the controling school division might be reflected in the regional program. There is a real possibility of internal frictions resulting from having a director of special education and a separate director of special education regional programs. Also, other school divisions may be reluctant to participate in this regional program due to their complete lack of control over its operations.

Single-System Model - B

Single Systems Model-B (shown in Table 8) illustrates an alternative to SSM-A. The major difference of this model over the "A" model is the use of a steering committee to aid in the administration of the regional program. The composition and function of this steering committee is variable. It can be composed of special education directors from all participating school divisions and be strictly advisary, or it can regulate the program and direction of the regional program.

The primary advantage of this model over SSM-A is its attempt to deal with the concerns of other participating school districts. If nothing else, it gives the appearance of not being as quite as autocratic as SSM-A. Also, if the steering committee is comprised of special education directors from all participating school divisions, any animosity between the director of regional programs and the sponsoring school system special education director may be reduced.

When the federal government passed PL94-142, it was aware of the fact that many private institutions do an excellent job of providing specialized services in special education. Therefore, it made special provisions allowing public school systems to utilize the services of private schools for special education services. Of course, such private institutions must respect all the rights and privileges afforded to students in the public schools. The Private School Model (PSM) is structured in much the same manner as is the MSM as seen in Table 9.

TABLE 8

SINGLE SYSTEM MODEL - B

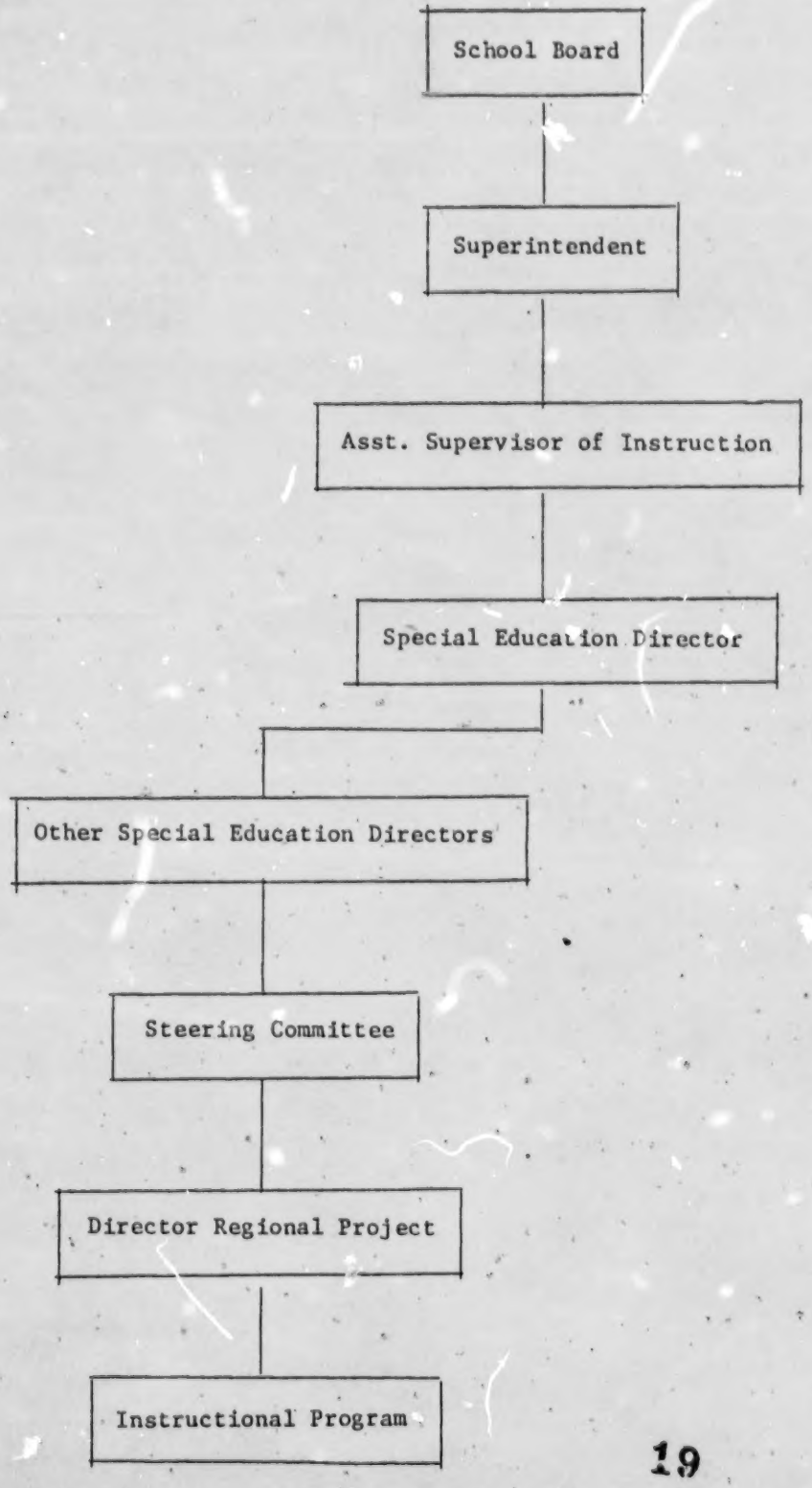
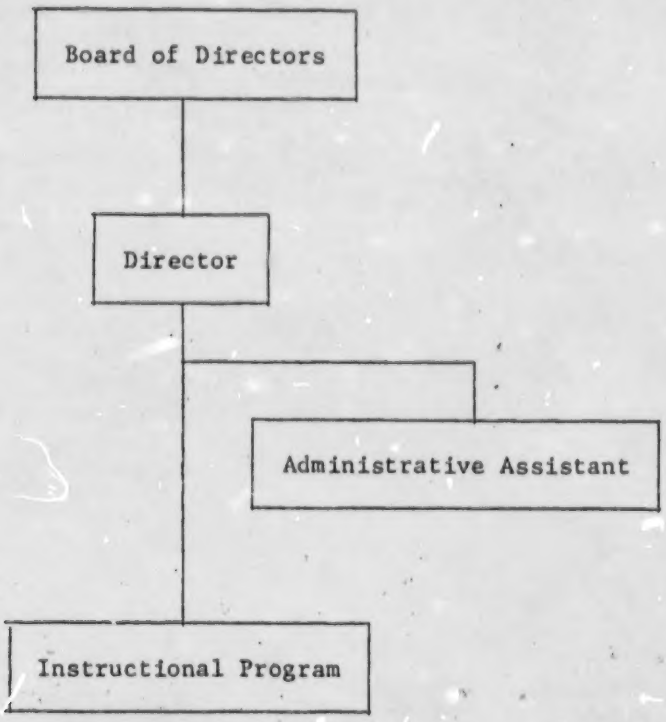


TABLE 9

PUBLIC SCHOOL MODEL



There is a Board of Directors which controls the organization. This board creates policy, objectives, and supervises the total operation of the regional program. The composition of this board is unique to the type of organization which operates the regional program. Therefore, any discussion as to how it is created is meaningless since most private foundations decide such matters on their own.

A director would be the top administrator officer in the PSM. This individual would administrate the program and its related finances. Of course, the director answers to the Board of Directors and must implement their instructions. An administrative assistant would also be necessary in this model, primarily to handle routine paperwork and accounting matters.

Public school divisions would send pupils to this regional program on a "buy-in" fashion much like that discussed in the Finance section earlier. Whether or not this private school was profit or non-profit would be a matter for the Board of Directors.

The advantages of this model are obvious. Private schools can regulate themselves in any manner which they see fit. However, PL94-142 does contain limitations on private schools which are providing special education services for public school students.

There are two primary disadvantages to this model. First, many public school systems are reluctant to utilize the services of private schools. The reasons for this are not easily discernable but nevertheless real, and second, many public school divisions might decide that they can provide the needed services cheaper if they form a Multi-System regional program as discussed previously.

RECOMMENDATIONS

In examining the feasibility of providing the type of specialized special education services like TREES does, the most practical, cost efficient, and effective model is the Multi-System Model. In spite of all its inherent political

problems, this model will provide the best instructional services for the least money. It operates from a cost-efficient standpoint of "economies of scale". The quality of its program will be untarnished by the administrative dueling which is inevitable with a Single-System Model.

In terms of finance, the per pupil funding alternative is by far the easiest but also the most inequitable. It further suffers from the very real capabilities of producing either a budget surplus or debit when enrollments shift just one or two pupils. By far the most cost-effective alternative to funding is the percentage share method. This model is absolutely equitable, allows for variances in pupil enrollment and will never create a budget surplus or debt. While it may require a little more clerical time to administer, the security and equity more than offsets this problem. Also, the costs of the additional time spent calculating the appropriate shares and percentage is much lower than a miscalculation of a single pupil under the per pupil method.